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**INFORMING MINORITY COMMUNITIES:  
THE ENGLISH SPEAKING BLACK COMMUNITY OF  
MONTREAL  
TOWARDS A DEPLOYABLE MODEL**

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**ABSTRACT**

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**Aim/Purpose**

The focus of the paper is on the English speaking Black communities of Montreal. But the learning strategies and simulated guide lines derived from the use of multi-agent complex adaptive modeling also applies to other cultural minorities and ethnicities within Quebec and the larger Canadian societies. We note that improvement in the development of ethnic minority sub-populations is often driven by small or “under the radar” community based organizations (ethnic, political, common interests and identity oriented associations) that provide leadership in these communities. The purpose of the paper is to explore how these minority “under the radar” agencies can use the information and communication technologies to inform community responses to change under increasing degrees of uncertainty associated with the total environment of which they are evolving and co-evolving agencies/elements. In the dynamic market oriented democracy of Quebec, how can the absence or existence an “informing” process (gathering and updating data, communication and exchange of information and ideas within and across cultures)

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hinder; or assist in the effective integration of minorities and engage them fully in the creation of a more socially cohesive, economic and environmentally sustainable society?

In the absence of well-defined traditional/classical social and economic models that can actually map/estimate the surface of a multi-agent complex adaptive (MAS) human systems, the objective is to determine whether the patterns emerging from the interactions and behaviours of intelligent human agents and their institutions are consistent with those observed in the computer simulations generated by models based on complex adaptive systems (CAS) theory. Do their actual behaviours mimic the computer generated optimal behaviours expected of intelligent agents (social entrepreneurs and networks) in a complex adaptive model of a social human system. Do the social entrepreneurs in these minority communities act to maximize/improve fitness: make strategic choices and sustain activities that reproduce, preserve and perpetuate life and improve their wellbeing from generation to generation? Do the observed patterns in social entrepreneurship indicate that they are making the optimal type strategic choices suggested by the CAS models: collaboration, sharing, and communication across cultural groups and ethnicities. The intelligent multiple-agent based model (MAS) supports the expectation that collaboration, sharing and communication improves fitness by increasing the information available to the group, and reducing the gaps in ingenuity capacity and capabilities between it and the more successful sub-groups. For example, between English speaking Blacks and English speaking Whites or French speaking Whites. The paper postulates that Blacks and other minorities in the urban settings of Montreal would benefit from the use of information and communication techniques to gain greater advantage in fitness by developing and using better informing mechanisms and instruments.

## Background

The Canadian nation is a complex adaptive social and economic system. It consists of ten Provinces and the North West Territories. It depends on immigration to sustain population and the vitality of workforce; and support economic growth. It is a bilingual multicultural country committed to an experiment in nation building based on a policy of multiculturalism entrenched in the Constitution Act 1982, the Multicultural Bill and a number of Supreme Court Rulings. Its governance is described as a free enterprise capitalist democracy with a Westminster style parliamentary system. It is ranked by Life Style 9 among the 10 best countries to live in with a life satisfaction rating of 82 percent and an overall score of 77%. But notwithstanding this, the reports of several commissions, task forces, and the message from several public demonstrations and movements express dissatisfaction with the rate and level of integration of visible and immigrant minorities into the social, political and economic fabric of the society. This study was motivated by concerns expressed by Black social entrepreneurs in the English speaking Black communities of Montreal in an unpublished survey conducted by the Institute for Community Entrepreneurship and Development (ICED). The survey revealed a strong perception among English speaking Black leaders that in spite of their efforts to advance their communities there has been far too little progress. They described this as evidence of systemic exclusion strategies of mainstream non-Black agencies and leaders. From the seventies



through to the eighties, constitutional changes at the Federal and Provincial levels of government in Canada legitimized and gave legal force to the pursuit of a more equitable, multicultural and diverse societies. Notwithstanding these changes there is significant research evidence that lend credibility to the perceptions of exclusion and the belief that a negative status is being assigned to Blacks in Quebec

#### Methodology

The paper bases its analysis on principles and properties derived from multi-agent-based system (MAS) model simulations of complex adaptive human systems. Agent-based models are interesting because they allow us to consider the effect of competitive and collaborative behaviors, information sharing, and the increases in knowledge and ingenuity capacity on the chances for the survival of sub-group cultures in turbulent, and aggressive external environments. We will use the concept of a fitness landscape to describe Canada or alternatively, Quebec. We define the fitness landscape as some mapping of the outcomes of all possible interactions between multiple agents in a system. The agents may be humans, organizations, institutions, other species, environmental ecosystems, the economy, etc. Agents are defined and distinguishable in terms of their properties and or attributes. Human being, as intelligent agents act to make choices (interact with other agents and select factors) that result in outcomes that determine their fitness/total wellbeing. The number of outcomes are dependent on the number of characteristics/factors from which to choose and the number interactions possible between characteristics/factors. There are numerous possible outcome. Each is associated with a total utility that may support or inhibit the capacity of intelligent cultural agents (individuals, kinship groups) to reproduce themselves, increase their growth and improve their wellbeing at the highest possible socially acceptable and environmentally sustainable levels. The paper postulates that knowledge creation and dissemination, communication and exchange are essential to advancement of all kinship groups seeking to attain greater fitness (locate and reach the top of the outcome with the largest total utility) in an environment. It looks at ways in which the information and communication technologies can be used to reduce the “ingenuity gaps” between groups/sub-cultures of intelligent agents. In short, how the information and community technologies can assist in designing strategies that assist disadvantaged minority groups to move to positions of greater advantage (higher fitness levels) on the fitness landscape.

In order to search the landscape the intelligent agent may break down into smaller groups with different ethnicities, sub-subcultures and search protocols and procedures. Excessive fragmentation of sub-cultures causes the clustering of the communities around low fitness levels (Kauffman's complexity catastrophes). The paper proposes as a solution to this fragmentation to develop and explore the use of an online learning and communication network centers with continuous feedback and updating properties. Our concern is not an analysis of the contributions of the information and communication technologies to GDP-determined economic growth. It is about the use of communication technologies to quicken the access to new ideas for solving problems of social and cultural change in a complex adaptive social system.

#### Contribution

It is our opinion that communication network centers can be designed as part of a strategic planning process to increase the capacity of minority communi-

	ties for creating, in a timely manner, the ingenuity required for solving problems of social, political and economic exclusion; for promoting sustainable development and improving objective and subjective wellbeing
Findings	The focus of the study is on the English speaking Black Community of Montreal and Quebec. Our review of the development and progress of the Black Community of Montreal shows that social entrepreneurs support the formal creation of community based networks of communication and information sharing as strategies for advancing their group's image, advocacy, and initiatives to assist individuals of the group increase their capacities and capabilities for taking innovative action to overcome the social political and economic barriers that inhibit their movement to higher life levels. Initial applications and review of test sets show that growth and development in these communities are not the result of a single social entrepreneur, but rather that of a social entrepreneurial process involving some quite exceptional and persistent individuals and a network of interacting "under the radar" organization agencies represented by network alliances such as the BCCQ (Black Community Council of Quebec) and the evolving Black Community Forum; the Black History Month Round Table; and the Pan-Black Events alliance promoting Black cultures and identities in Montreal.
Recommendations for Practitioners	The usefulness of the network community systems need to be monitored. Its usefulness will depend on how its output are perceived to have contributed to improving the level of fitness (the vitality and wellbeing/utility) of the community and its members. It will require a holistic approach to community development supported by network centers that provide communication and information services at levels that improve and sustain the capacity of the organizations and the community to adapt and evolve from generation to generation. The mechanisms in place must increase and sustain the capacity of the systems to achieve and maintain the desired level of outcomes consistent with attaining the highest fitness levels for the English speaking Black Communities. This must be tested with the help of information provided by a built in feedback subsystem of the network.
Recommendation for Researchers	A central data base has to be built into the system where economic, social and economic variables and measures of subsystem specific attributes and characteristics are gathered and stored for use by the network organizations and social entrepreneurs. There is no comprehensive measure of a fitness index for the Black Community in Montreal. Practically speaking, there are too many possibilities to find a precise solution. However, an approximation of fitness can be obtained by constructing human development index (HDI) in combination with measures of inequality such as comparative data on income, employment and unemployment, poverty, etc..
Impact on Society	The paper briefly reviews and restates some questions about the success of the experiment of Multiculturalism in terms of the recognition of the contributions of its diverse immigrant groups, and complaints of failed expectations expressed by Black and immigrant minority groups. The paper reconstructs the discourse and offers a dynamic analytical framework that helps policy makers and Black community social entrepreneurs to explore the extent to which one can use information gained from applications of multi-



agent complex adaptive systems theory, and information and communication networks theory to develop more informed strategies for addressing problems associated with these failed expectations of multiculturalism. The network centers assist in the effective integration of minorities and engage them in the creation of a more socially cohesive, economic and environmentally sustainable society.

**Future Research** More research needs to be done to improve the quality and expand the demographic and other data relating to the black communities in Montreal and Quebec. Also more research needs to be done on the development of an archival documentation system and systems for management and distribution of information between the different communities that make up the Black Cultural entity in Quebec and Canada.

**Keywords**

## INTRODUCTION

This study is exploratory. Its analytical framework draws on the theory of agent-based modeling of complex adaptive systems. The approach is inductive: we make assumptions about the system that we believe to be most relevant to the situation at hand and observe the phenomena that emerge from the interaction of our target group with other agents in the landscape. Therefore the study uses an action research methodology. We start from the basic premise that society is a complex adaptive system with its primary purposes centered on many diverse subgroups of human species located in a complex environment and motivated by their will to life: survival, reproduction, the perpetuation and improvement of life (Dawkins R. *The Selfish Gene*, 2009), and the search for an ultimate meaning/truth (Frankel V. E. 1997). It explores how “below the radar” cultural minority sub-groups in the third sector (Below the Radar, TSRC Birmingham University, 2017) can use the information and communication technologies to inform their responses to change (decision making) under various degrees of uncertainty in the environment. That is to say to improve their capacity to gather and use information for improving their fitness. Our target experimental group is Blacks in Quebec, with the main focus on the English speaking Black community. The Black community consist of many communities. Moreover, in those sub-communities they are represented by three basic types of agencies. Groups based on common socio-economic interests which are classified as ethnic interest organizations; those based on a shared conception of the common good classified as ethnic political associations; and those that are focused on the maintenance of the ethnic culture classified as ethnic identity organizations (Fennema 2004; McCabe, Angus, Phillimore, Jenney, Mayblin, Lucy January 2010, p9).

Thus, as a community, the Black community of Quebec represents a very complex system of sub-groups on many dimensions: culture, race, multiple identities, language spoken, religion, traditions and beliefs, place of origin, histories, the balancing of loyalties between local national cultures and external origin cultures. For the purposes of this paper we shall use the general term Black as a cultural entity in the sense used by the Canadian Census. That is, persons of African ancestry and who are not White in color (Census, 2006). Also, Blacks in the Canadian context are considered culturally distinct from Blacks in the American context, a distinction effectively made by professors Robin Winks (Winks, 1997) and James Walker (Walker, 1980). We take the position that information sharing between exemplars (social entrepreneurs: knowledge bearers and transmitters) within the Black communities (consisting of Canadian born and many immigrant Black groups) and between them and mainstream Canadian knowledge-based institutions, increases the stock of knowledge and flow of ingenuity within and between the groups; and between them and the overall system. In turn, this increases the capability for the group (the Black community) and its members to overcome barriers to their strategies for moving to higher fitness peaks.



In his book, *The Ingenuity Gap*, Homer-Dixon (2001, 19-33) states that population explosion, urbanization, and rapid growth in technology have increased the complications of human societies and organizational decision making. He proposes that to manage and solve these problems societies need to be able to create knowledge as new ideas (ingenuity) at a much more rapid rate than in the past. He states that “to one degree or another, all human societies are locked into a race between a soaring requirement for ingenuity and its uncertain supply”, and concludes that where gaps develop between the need for ingenuity and the supply of it, disaster sets in (Homer-Dixon, p26). Based on these propositions and the inevitability that Homer-Dixon assigns to a global increase in the ingenuity-gap, one might expect that to avoid death intelligent life will act to reduce the level of complexity to a more tolerable level. In fact, this is what Stuart Kauffman (*The Origin of Order*, 1993) believes is likely to happen in a complex adaptive system. Thus, we argue in favor of a reduction in complexity by increasing collaboration between sub-cultures. Moreover, we propose that Blacks and other minorities in urban settings would benefit from the use of the information and communication technologies and gain greater advantage by creating better informing mechanisms and processes. If they are to effectively eliminate the effects of exclusion/ the “color line”, they must as a strategy gather, update and use knowledge to reduce any ingenuity gaps that act as barriers to their initiatives to improve their fitness. The paper bases its analysis on principles and properties derived from agent-based models (CAS and multi-agent-based models). Agent-based models are interesting because they allow us from computer simulations to study the effect of collaborative behaviors, information sharing, and the increases in knowledge and ingenuity capacity on the chances for the survival of sub-group cultures in turbulent, competitive, and aggressive external environments. This includes environments in which dominant mainstream cultures are closed, or prefer to collaborate only with cultural groups that most closely resemble them over a selective range of kinship attributes and common cultural and historical experiences. Based on the cases and simulations reviewed, we propose the creation of a communication network system to bridge the gaps in information flows. It is hoped that such a network will act as an informing mechanism to increase information flows within and between the English speaking Black communities and mainstream networks. Feedback loops in the system will allow us over time to test the research hypothesis that barriers to community development in the Black communities of Montreal are partly a result of weak channels for sharing information within the sub-group cultures and between them and the mainstream cultures that have larger stocks of knowledge and greater capabilities for supplying ingenuity when needed. The university is an important node in the larger community communication network system. It is a repository of knowledge and a generator of new ideas and ingenuity. The overall objective of the research is to find effective ways to facilitate the transfer of technology and knowledge between groups that are located at higher fitness peaks to nodes (centers) in these communities located at lower fitness peaks. That is, to increase the exchange of information between Black community based organizations (social entrepreneurs) and institutions of higher education, with greater knowledge creation and updating capacity and capabilities; to identify change indicators and input those indicators into a research methodology that becomes the engine for action-research-based planning and sustainable development. Because of the complex nature of the interactions and adaptations between Blacks (largely immigrant) groups and mainstream society groups, we have adopted an action oriented research approach that allows us to respond more effectively to unexpected and novel outcomes and reactions to the adaptive search decisions of the community organizations. This permits “real time” incremental adjustments to the search rules and strategies used to realign the system to an approximation of the best desired result. This requires interventions and constant interaction with the community organizations in the study over time as the system converges to some ideal. The proposed network communication system makes that real time intervention possible. Our concern is not an analysis of the contributions of the information and communication technologies to GDP-determined economic growth. It is about the use of communication technologies to quicken the access to new ideas for solving problems of social and cultural change in a complex adaptive social system.

### **BACKGROUND**

The study was motivated by concerns expressed by Black social entrepreneurs managing community-based organizations in the English speaking Black communities of Montreal. The concerns were framed



in an unpublished survey by the Institute of Community Entrepreneurship and Development (ICED) of Black leaders of five key English speaking Black organizations: the Black Studies Center (BSC), the Black Theatre Workshop of Montreal BTW), the Black Community Resource Center (BCRC); The Quebec Board of Black Educators (QBBE); and DESTA Black Youth Project. (Survey of Black Organizations, December 2009 - 2010). The survey revealed a strong perception among English speaking Black leaders in Montreal that in spite of their efforts to advance their communities there has been far too little progress. They see this as a result of systemic exclusion strategies of mainstream non-Black agencies and leaders. An analysis of the survey responses showed that out of ten mostly University educated managers and Board members of the five key Black organizations, seven either agreed or strongly agreed that their organization and their members believe that *"Quebec and Canada are like a landscape with peaks and troughs. The high peaks offer the best views, the best air, and the best opportunity for Whites. Blacks and other minorities are barred from attaining these fitness peaks."* Two respondents were indifferent and one strongly disagreed with the statement. Also 9 out of 10 respondents disagreed or strongly disagreed with the following statement: *"your organization believes that , "In general, Black people feel safe in their neighborhoods, are respected, valued, well placed and are full participants in the Quebec society."*

From the seventies through to the eighties, constitutional changes at the Federal and Provincial levels of Government legitimized and gave legal force to the pursuit of a more equitable, multicultural and or pluralistic society. In fact, the Canadian Constitutional Act in Article 27 actually states that Canada is to be governed as a Multicultural State (Canadian Charter... 1982). Notwithstanding these normative changes and update of what was considered proper and right, in the private spheres there was significant research evidence that lend credibility to these perceptions of exclusion and the belief that a negative status is being assigned to Blacks in Quebec. In October 2001, The McGill Consortium for Ethnicity and Strategic Social Planning issued its first of two reports on the level of fitness of the Black Community of Montreal (Torczyner et al. 2001). This was followed by a second more longitudinal study in 2010 based on the 2001 Census. Professor James L. Torczyner and his team (2009) collected and compared fitness indicators (income, educational attainment, gender ratios, size of labor force, labor force participation, poverty levels, home ownership, family structure ) spanning the two census years 1996 and 2001. From the data, he drew the conclusion that Blacks continued to lag significantly behind non-blacks on every success indicator. This corroborated the findings of the Quebec Government Task Force Report on the Full Participation of Black Communities in Quebec Society, released in 2006 (Task Force on Blacks, 2006). Also, in a paper presented at the 8<sup>th</sup> Conference of the International Society for Third Sector Research, Barcelona, July 2008, Bayne showed that over several censuses a complex set of social, political, cultural, and preferential race based barriers had operated to minimized the effectiveness of the social and economic strategies used by Black social entrepreneurs to improve the well-being of Blacks in Quebec ("Statcan Census Employment Figures..., Spring 2010). Both Bayne (ICED portal, May 2013) and Torczyner (Demographic Challenges , 2010) pointed out that between 2001 and 2006 there was some evidence of growth and positive change with respect to some indicators , but expressed concern about the dramatic disparities in income and employment for given levels of educational attainment; and the levels of poverty among Black women and children; the low levels of savings and capital asset ownership ; and in general, the exceptionally slow pace of integration of Blacks into the economic and democratic decision-making processes of Quebec. The Quebec Government Task Force Report on Full Participation of Black Communities in Quebec Society (2006) also highlighted these problems faced by the community. Moreover, studies done by Professor Marie Mc Andrew and others at University of Montreal in collaboration with the Ministry of Education Quebec show that English speaking Black in the French School system by the decree of Bill 101 are in part under-performing as a result of systemic biases against them ( Mc Andrew , Marie et al, 2005; and Celemencki, Jacqueline , 2010)

#### **PURPOSE AND DIRECTION OF STUDY**

The case, so forcefully made by Torczyner and Bayne, apart from indicating a need for corrective social action, strongly suggested to us that our research take a fresh look at these system outputs within the framework of Quebec as a complex social, cultural and economic landscape. Thus, the intention of this



paper is to shift the focus away from looking for solutions to the single factor of systemic discrimination to reviewing the problem and searching for solutions using a multi-dimensional dynamic analysis. In this sense, it views the Black community as a complex subsystem, among other subsystems or agents, interacting and adapting to internal and external changes as it tries to find ways to increase the chances for the survival and perpetuation of the life, and the wellbeing of its members. It treats the problems facing Blacks in Quebec in one part as maintaining the growth and vitality of the populations as well as being part of the dynamics of a social complex adaptive system. Thus we draw on the properties and theory of complex adaptive systems (Kauffman, S *The Origin of Order*, 1993; Fryer, Peter, Trojanmice: What are complex adaptive systems" 2017). to help us at any given time, to understand how information and communication technologies can be used to increase the capacity of the Black community to overcome system barriers and risks: to sense, stabilize the volatility, and act to choose the best strategies for the complexity that defines the Quebec and Canadian fitness landscapes. A complex adaptive system consist of relationships, emergence, patterns and iterations. It is characterized by many variables and their properties. A key property of such a systems is that it emerges as a result of the apparent random interaction and connections between agents (humans, organizations, kinship groups, water, air, flora, fauna, animals, etc.) in sub-systems and in the system as a whole. The system is adaptive and emergent at all levels. In a social human system, the life and wellbeing of the human person as "intelligent" agents is dependent on patterns formed by interactions with the landscape. These interactions trigger adaptive or influencing decisions and actions by the "intelligent" agents in response. They are determined by the strength of the cultures of the groups (how closed they are), their propensity for collaboration, the tolerance for diversity of perspectives, the creation and updating of knowledge, and the capacity for innovation and ingenuity. For this study, the English Speaking Black community is considered to be one among many agents in a complex Canadian social and cultural complex adaptive system. S a sub-group it has its own internal environment that distinguishes it from other subsystems or agents.

The English speaking Black community (indeed the Black Community) of Montreal/Quebec is not a homogeneous cultural group. It does not conform to the conventional definition of a strong culture in which a significant number of the components of culture are shared uniformly by all members of the group, nor is it exhaustive in terms of the extent to which these components influence the behavior of all the members. It consists of many subcultures that link its members to Africa, various Caribbean island cultures, Canada and other countries or Continents. This diversity within the group is a direct result of patterns and sources of immigration and the rapid rate with which that has occurred over the last forty years ( Bayne, 2008 ; Torczyner , 2010; Mensah, 2010). This has led to tension between sub-groups who compete with each other for recognition and resources; and to conflicts of identities as each subgroup exercises its constitutional right to remain loyal to origin cultures, Haitian, Jamaican, Ghanaian, Nigerian, Trinidadian, Africa-American, etc. The result often is fragmentation of voice and responses, even when challenged by system generated negative forces affecting members of any of the subgroups by a process of racialization classified to a single cultural class (i.e., a Black in Canada). It is assumed that a strong culture is a necessary but not sufficient strategy for the survival and development of any subgroup and for the retention of its origin identity in any complex adaptive human system: that is , the larger the number of persons that share the same values, traditions, vision the greater the possibilities that they will succeed or outperform their competitors on the fitness landscape and improve their fitness, in the biological sense of fitness ( reproduction, preservation, perpetuation and evolution from generation to generation). If this is true, what kind of structures and institutional arrangements are necessary to unify the many sub-cultures that constitute the Black community of Montreal? In a society where all cultural and diverse origin groups have the constitutional right to retain origin cultures or choose alternative cultures (Canadian Constitutional Act 1982), how can we create a strong and more culturally comprehensive larger group from among a loosely linked set of smaller sub-groups? How can we enhance their capacity for producing sufficient ingenuity in order to effectively inform their search decisions/planning and strategies for improving the fitness of the group? What are the potential net benefits of creating collaborative network systems that are based on shared beliefs and norms? What is the likelihood that such a network



would sustain the vitality of the group and move its members to higher levels of existence and/or better life styles? How will we go about this?

## BRIEF REVIEW OF SOME RELEVANT LITERATURE

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### *MODELLING COMPLEX ADAPTIVE SYSTEMS (CAS)*

There are three main approaches to modeling complex adaptive systems: agent-based modeling, networks and cellular automata. In its most general form, a complex system consists of many components or agents that interact and connect with each other in unpredictable and unplanned ways. From this mass of interactions regularities emerge and start to form patterns that inform the agents within the system and the behavior of the system itself. These systems are emergent and co-evolutionary. Because the agents are a part of their environment, when they change, they change their environment, and as it has changed they need to change again, and it continues in unpredictable cycles of varying amplitudes and lengths of time. (Fryer, P. Trojanmice).

Bounded rationality tells us that complex adaptive system exists between two extremes; equilibrium and chaos. Complex adaptive systems (CAS) cease to be adaptive when the system is in a state of equilibrium (steady state) and cease to function as a system when the system is in a state of chaos. Bounded rationality also tells us that intelligent life can reasonably be expected act to optimize fitness which is more likely to occur close to chaos than under equilibrium conditions. The conclusion is that humans function most efficiently and effectively at the edge of chaos (Kauffman, 1993) where they are constantly challenged to be technically and socially ingenious. Disaster strikes most severely when we lack the time and capacity to adapt to the best fit possible. This is certainly true of human societies where the change in the global environment are so rapid and chaotic that humans lack the capacity or ingenuity to respond in time and effectively to avoid disaster or act to mitigate its negative effects (Homer-Dixon, 2001). A special aspect of human complex adaptive systems is that human agents are capable of learning and creating new ideas for solving problems: constructing “sets of instructions that tell us how to arrange the constituent parts of our social and physical world in ways that help us achieve our goals”: reach higher levels of fitness (Homer-Dixon, 2001, p21). Homer states that when a society cannot supply sufficient ingenuity to meet its needs, it develops an ingenuity gap between what is required and what is actually supplied. Societies or systems with severe ingenuity gaps cannot adapt to or mitigate stresses in their environments. The same is true of cultural subsystems in a society. In such situations the system emerges into chaotic behavior patterns, and mass migrations, riots, insurgencies and other forms of social disorders take place (Homer-Dixon, 2001). Given the non-linear dynamics of the interactions between agents in complex adaptive human systems, the randomness of events, and uncertainty of the level of their initial impact, predicting outcomes in CAS environments becomes extremely difficult and unreliable.

However, the study of natural and artificial complex adaptive systems enables us to distil general properties and processes associated with these systems that are very useful in thinking of the world around us. CAS theory provides a conceptualization and framework for a class of complex systems and their resulting phenomena. Studies of CAS provide us with computational tools (computer algorithms for deriving simulations) and a set of insightful principles deduced from the behavior of the system (Holland and John 2006, Brownlee and Jason, 2007) that we can use as guidelines for determining what decision search rules to apply in an evolving landscape. Thus, to assist our thinking, we have borrowed from the work of scholars conducting research on agent-based modeling of cultural change. The overarching intent is to get an informed sense from the simulated results of what the impact is likely to be on a system’s configuration and its objective and subjective wellbeing function (fitness) when cultures change in a landscape (set of ecological sub-systems). The works consulted are “Growing Artificial Societies” by Joshua M. Epstein (1991), “The Origins of Order” by S.A. Kaufman, (1993) and two key articles in the field by Ziad Kobti, Tim Kohler, and Robert G. Reynolds on agent-based modeling (2003) and multi-agent simulations (“A Multi-Agent Simulation”, Kobti, Kohler, and Reynolds, 2003). We have elected to use the simulated results of Kobti, et al. because of the clarity of exposition and because they are agent-



based designs in which the design of culture bearing kinship networks can be assumed to approximate racially constructed sub-cultures. This makes the simulations derived more useful in helping us to get a better understanding of global or emergent outcomes specific to the target group for this project (Blacks in Montreal and Quebec). The model simulated results act as proof-of-concepts about culture retention, the role of kinship networks in the adaption process and as informing channels. It helps to understand leadership as an entrepreneurial function in the system. It will allow us to think more clearly about the arrangements of kinship and social culture systems that have the best chance of surviving in the face of negative environmental changes (social, economic and environment disasters). We believe the approach is relevant for informing local, national and international policies on sustainable social and economic development. This can be easily visualized in the context of the world challenges of equity and sustainable development as expressed by the World Commission on Environment and Development (1987). Thus the issues explored in the model simulating the fitness landscape are related to developing and managing (1) population and human resources; (2) food production, distribution and exchange; (3) species and ecosystem preservation; (4) consumption patterns; (5) agricultural and industrial practices and (6) rapid urbanization.

### ***AGENT-BASED MODELING OF CULTURAL CHANGE USING CULTURAL ALGORITHMS***

Tim Kohler, Ziad Kobti, and Robert G Reynolds over a three year period 200-2003 carried out a number of exploratory agent-based modeling studies of the settlement and farming practices of the Pueblo Indians of Southwest Colorado (2003). The initial study, the multi-agent village simulation, was developed by Tim Kohler (2000) to simulate the effect of negative environmental changes (drought) on the capacity of the group to sustain its culture and survive in the region. The initial simulation suggested that factors other than drought lead to the disappearance of the communities. The team proceeded to update the model by adding economic factors, exchange, cooperation and learning rules. They then observed the impact of learning, collaboration and exchange on the resilience of the community. They used a cultural algorithm to simulate a socially adaptive and self-regulating system to mimic imagined behaviors and events in the Pueblo Village. As they updated the model, the simulations progressively produced larger and more complex system with greater interdependencies and more responsive and adaptive to external change (Agent-based Modeling, 2003). This suggested to us that the model had meaning for an exploratory study of ways that the Black English speaking communities, as well as other minorities, could improve their level of fitness in the Quebec fitness landscape.

## **THE THEORETICAL FRAMEWORK FOR AN INFORMING SYSTEM**

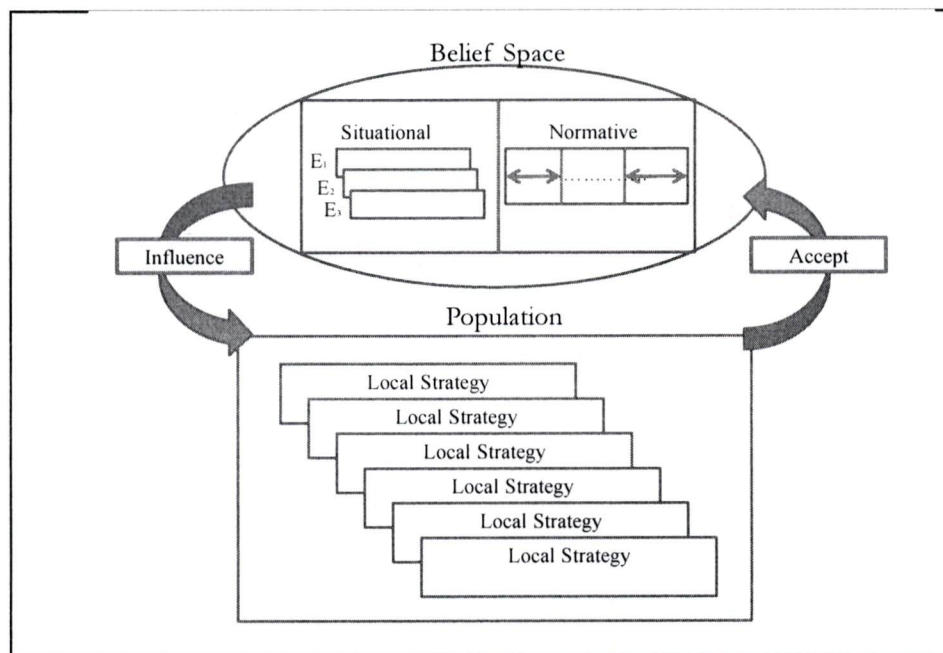
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Kohler and his colleagues define an agent-based model as consisting of two spaces, a belief space and a population space (Figure 1). The belief space is like the brain of a complex system. This is where patterns are sensed from the masses of interactions in the system and stored as knowledge. It is the repository of knowledge. Some knowledge takes the form of facts and basic skills which are fixed at any given time and place. Some can be updated and learned over time. Fixed knowledge may be topographical, temporal or historical, and the current level of skills and inventory of ingenuity in the population. Global dynamic knowledge is generated by the collective experience (the successes and failures) of the most effective and efficient social and economic entrepreneurs, in the sub-groups and population. This is generalized knowledge accumulated in the belief space for use by current and successive generations. This knowledge is of two types, situational and normative. These are the two dynamic factors responsible for change, self-regulation and adaptations in the cultural framework. It is debatable as to whether normative knowledge is arrived at through the success-failure experiences of the population or transcendently or both. We will simply take it to be generalized knowledge about what ought to be or should be that is accumulated and validated by the population in some collective sense (an acceptance process). It is used as a reference or guideline in making or influencing decision making, planning and implementation. The latter processes also use situational knowledge of both a global and local nature (the art and science of knowing and doing).



Normative knowledge is updated in terms of the new experiences of the population. Cultural knowledge which may be specific to particular sub-groups is also accumulated and used to communicate information that facilitates self-adaptation at the level of the population space. It legitimizes activities and controls population and sub-group behaviours. The normative process helps to define the ideal personalities to which we aspire and how we relate to each other in the population space. In the population space households/agents interact and engage in a complex set of dynamic social and economic behaviours that determine the types of groups and the nature and structure of those groups; what is produced, how much, when, and where; who gets what, how much and when; and what is the socially desirable distribution of resources, goods and services. The topographical dimensions of the landscape are themselves complex and evolving such that decisions and choices are made by the agents/households under varying degrees of uncertainty generated by external changes. Interdependencies in the biosphere contribute to the creation of a recursive or self-adaptive system.

**Figure 1: Cultural Framework**



In this model (Figure1) the central purpose of population activity is the survival and reproduction of itself. Fitness is therefore understood in the biological sense of reproduction, survival, perpetuation of life or evolution. The survival of the species is achieved through the innovative use of knowledge derived from the success-failure experiences of exemplars in the population. In its most rudimentary form the system achieves its central objective within the framework of a culture and kinship networks and a process of social entrepreneurship. In this adaptive system production is for the preservation of life and improving the fitness of the kinship and cultural groups; not for the accumulation of private profit. There is a compassionate distribution mechanism in place. Surplus food (grain) is shared on a needs basis. The studies reviewed (Kobti, et als, 2003, Kholer, 2000) provide us with the simulated results of a computational and algorithmic framework that incorporates concepts of the creation, accumulation, and the updating of knowledge (creation of ingenuity) and sharing of knowledge. In short, the study is based on a dynamic analysis of social and cultural adaptation.

### ***SOME RELEVANT RESULTS***

Simulated results based on the agent-based modeling carried out by Kobti, Kohler, and Reynolds, (2003) and others show that the larger the stock of ingenuity (the larger the knowledge base), the more frequently knowledge and new ideas for solving problems are shared across groups, the more instances of collaborations within and between kinship groups, the greater is the resilience of the system, and the larger the size of the network nodes the social and cultural system can support. That is the greater the amount of complexity the system can tolerate. In general, increased levels of learning (situational and normative, technical ingenuity and social ingenuity or intelligence) produced a more resilient system able to make better recoveries from disaster. It is noted that this is achieved by greater dependency or connectivity between sub-groups (Kobti, et al. 2003). This view is consistent with findings of Stuart Kauffman in *The Origins of Order* (1993). Kauffman in his NK model of evolution posits the argument that adaptive evolution is bounded by the character of the fitness landscape (its ruggedness/uncertainty and number and heights of peaks). But that character is in turn dependent upon the agents that are evolving. Entities that evolve as fractured subcultures increase the number of conflicting constraints on the system and create conditions that do not allow adaptive evolution to be optimized. This situation is described by Kauffman as the result of "complexity catastrophes" (Kauffman, 1993). The agent-based analysis makes exemplars (knowledge bearing innovator agents) responsible for dynamic change in knowledge accumulated in the belief space for use by current and future generations. Exemplars are considered the true agents of change and growth subject to societal values that are global (moral and cognitive legitimization). Thus the model defines, in our sense of the concept, the social entrepreneur, since their function is to continuously engage in increasing the fitness level across kinship groups, and not the accumulation of wealth: the social entrepreneur is motivated by the will and the urgency to act to survive and to perpetuate the existence of the kinship group, not solely by the private and personal benefit of his/her acts (Bayne, 2008)

## **BUILDING A RESULTS BASED COMMUNICATION AND INFORMING SYSTEM**

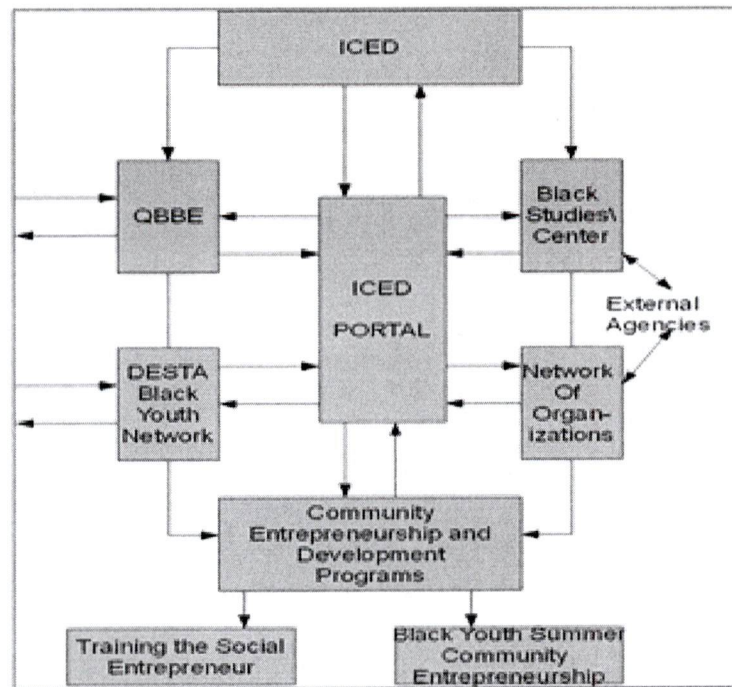
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Our research and analysis strongly supports the view that access to information (knowledge), having the capacity and capability for innovation (ingenuity) are critical factors for the success of any kinship or cultural group navigating the fitness landscape. This is particularly for the diverse group in the Canadian Multicultural state. We postulate that groups need to develop programs that increase access to greater education resources and skills acquisition. They need to set up improved communication network systems to assist in the greater dissemination of knowledge; greater communication and collaboration across kinship groups, strong support for the social entrepreneurial spirit. They need to participate more fully in general movements for the development of a moral framework and strategies for attaining socially cohesive and sustainable communities and society.

Therefore, we decided to construct a results based management communication network system linking key organizations in the English speaking Black community of Montreal. The central network mechanism will be a portal with the capability for logical network analysis. The planned network will constitute a set of online communication centers providing information and learning resources requested by the Black community organizations (ICED Survey, 2010). The system will use a feedback function to update and improve the flow and quality of information and promote greater communication between members of the network with mainstream networks and knowledge creation institutions. At John Molson School of Business, Saade et al. has been working on the development of an online learning model which links community based centers within a communication learning network. There may be many different centers, each one or clusters of centers addressing a range of problems and issues impacting on the well-being of a community. Figure 2 illustrates the proposed linkages and information flows between the key organizations.



Figure 2: Communication and planning chart



The establishment of the communication network centers are expected to produce two sets/levels of outputs. These outputs are inputs to the organization and community sub-systems (English speaking Black communities and organizations) of the landscape. It is hoped that the proposed network system of which ICED is the central system will:

1. Provide and maintain mechanisms (communication and information technologies), protocols and procedures aimed at increasing the capacity of each communication Center (organization) to meet the information and communication needs of its constituents
2. Establish sustained services to support the decision searches of the centers and their members in the emerging market economy and the changing and political landscape of Quebec.

We postulate that these two system outputs are essential to providing a desired level of communication and information sharing to support the strategies and supplying the ingenuity needed for continuous improvements in community fitness. That is, it is believed that the use of the communication and information technologies will increase the capacity and capability of members of the groups to adapt more efficiently and effectively to changes in the fitness landscape of Montreal and Quebec.

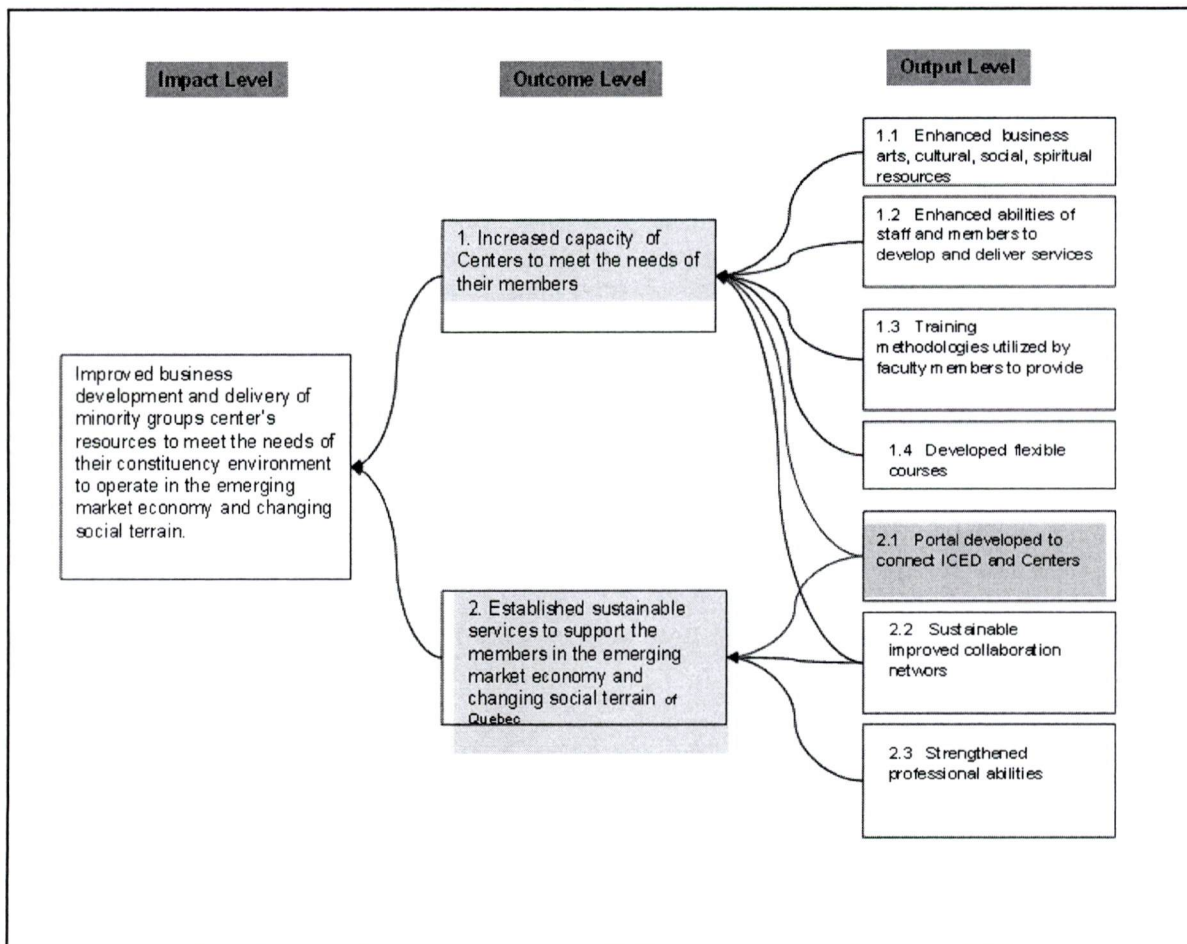
The Impact output- outcomes chain. Diagram 3 illustrates the impact-outcome-output expectations. The outcomes are the expected deliverables at the organizational level generated by the two levels of the network outputs. This must be understood in the context of this paper to be a desired ideal structuring of the mechanisms and institutional arrangements that inform the belief system described in diagram 1 above. This outcome-output –chain is interactive and is subject to revisions in terms of the feedbacks from the network system. The desired outcomes are:

1. Enhanced management and business, arts and cultural, and spiritual capacities and resources,
2. Enhanced abilities of staff and members to develop and deliver services,
3. Access to training methodologies and learning programs developed by colleges and institutions of higher learning,
4. Development of flexible training facilities,
5. Development of Portal and common database to connect ICED and centers,

6. Sustainable improved collaboration between network organizations: increased communication and ingenuity supply capacity), and
7. Strengthened professional abilities: increase entrepreneurial ingenuity and innovative capabilities.

Figure 3 provides a graphical presentation of the non-linear association of system outputs with organization and member outcomes as a chain of events. The first four outcomes are a result of system output level 1 and the last three (5, 6 and 7) are a result of system output level 2 (Note that outcome 5, ICED portal development, is central to the implementation and development of the network system as a whole.

**Figure 3: output and outcome chain**



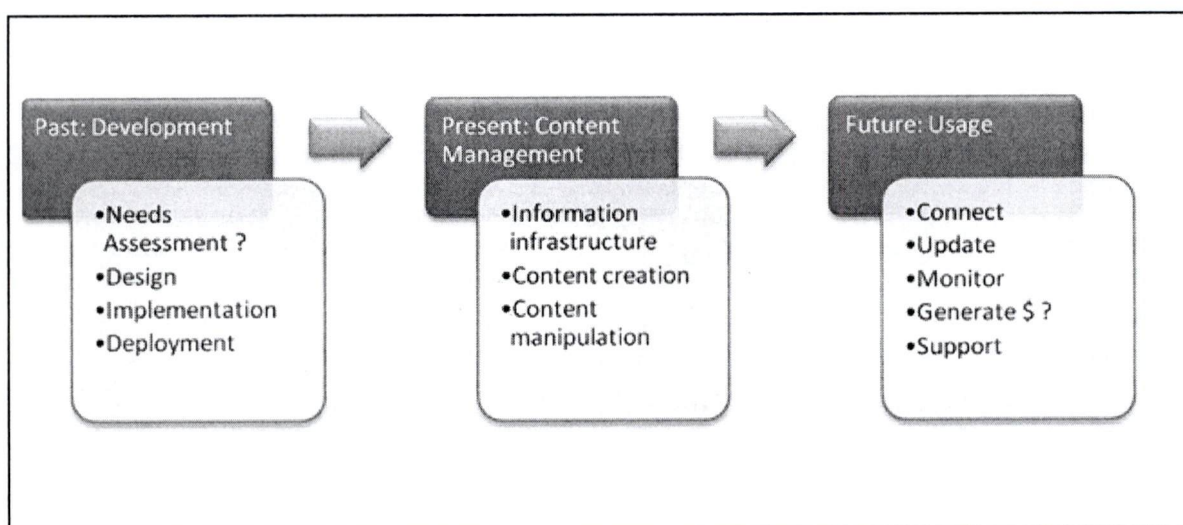
The learning aspects of the communication network will involve discussions at the communication centers on social issues; monitoring the progress and displaying outcomes and best solutions; on-line and face-to-face workshops. There will be a real-time feedback loop mechanism created and built into to the central node site (common database accessible by each Center). All programs and strategies will be subject to a results based management process to determine their efficacy. Data collected across all centers can be used to develop a general well-being index for the community. This has been partially tested using an ICED Survey instrument during the early phases of the development of the network (ICED, 2010). Specific Center-based information at the portals and websites of key communication center is used to update knowledge in the larger community belief space about the target groups and the community they serve: art, culture and identity defining events; their histories, social, economic, and political positioning and contributions to the settlement and development of the landscapes of Quebec and Canada as inclusive, culturally diverse, and democratic societies. There are three time related phases to the development and construction of the proposed system networks centers.



1. The first phase is the development stage requiring a review of the center's mission and history of successes and failures. Online Reports will be updated periodically.
2. The second phase relates to development of information and data collection structures, content creation and validation, content management. The Global Reporting Initiative system (GRI) will be used as guidelines for reporting and making standard organization disclosures; and keeping track of local fitness indicators.
3. The third phase is the usage stage: sustainability of activities and connections with Centers, monitoring the changes in the GRI reporting systems and social indices at the Center levels, and measuring their overall impact on the social wellbeing of the kinship group and society.  
A built in real time feedback mechanism will enable a continuous monitoring and updating of the effectiveness of the communication of ICED with the centers, and between centers. This facilitates the creation and sustainability of learning resources, and provides continuous access to new knowledge stored at the common database. It helps to reduce the ingenuity gap at the local organization and leadership levels.

A picture of this process over the three time phases is presented below in Figure 4 as shown below:

**Figure 4: Three Construction Time Phrases for the Information and Communication Network System**



## INITIAL APPLICATIONS AND TEST SETS

The learning strategies and simulated guidelines derived from the cultural change model we have described earlier in this paper are being used to test the outcomes of the plan of action of a Forum of twelve Black organizations in the English Speaking Black Communities of Montreal. A Survey of 10 Black leaders in key English speaking Black organizations was conducted by ICED in May 2013 as part of a needs assessment study. Nine (9) out of ten (10) of these leaders indicated the need for the following structure and service:

“Formal creation of community based networks of communication and information sharing as strategies for advancing their group’s image, advocacy, and initiatives to assist individuals of the group increase their capacities and capabilities for taking innovative action to overcome the social political and economic barriers that inhibit their movement to higher life levels”.

This created the basis for the design and development of the network described above as an “output-outcome chain” under item number 5 and represented in Diagram 3 as outcome 2.1 (ICED Survey, David O’ Brien Center, JMSB, 2010). Diagram 2 above shows the possible and planned linkages with some key centers in the Black Community at the time of the survey. The following organizations are participants in the network that is currently under construction: the Quebec Board of black Educators (QBBE), the Black Studies Center (BSC), the Black Community Resource Center (BCRC), the Black Theatre Workshop (BTW). The Pan-Black Events Website of an Alliance of Black organizations in Montreal and supported by the Black Community Forum of Montreal. These organizations are also member organizations of a larger group of twelve English speaking Black Organizations, the Black Community Forum, that have come together for the purpose of reducing fragmentation caused by Black immigration from many different countries. Fragmentation inhibits effective communication, a problem associated with the multiplicity of closed sub-cultures based on country of origin. Therefore, the purpose of the Black Community Forum is an attempt by Black leaders to develop a process which will identify a long-term development plan for the Black community as a collective; and to ensure that this planning process is a cooperative effort within the Black community. To further these objectives, the Forum has created an administrative structure (The Secretariat of the Black Forum) to support the planning process and provide a network of inter-organizational connections that build and strengthen existing relationships. (BSC Portal: <https://bscportal.files.wordpress.com/2015/03/communityforum8.pdf>).

The focus of the operations of the Forum are on improvement in communication and information sharing as a strategy for strengthening the vitality and negotiating strength of the Black community. At a meeting of the Black Community Forum, June 16 2016, attended by twenty community organizations and 50 individuals, two important propositions were approved by the Black Community Forum: one for the support by the Forum of “The Pan Black/PanArique Events Manifesto and Website administered by the Black History Month Round Table. The second relates to the formal recognition and support by the Black Community Forum of a joint program on the development of a Community Archives and Communication Technology network as a collaboration between four organizations, the BSC, BCRC, QBBE, and ICED (2016, Bscportal.files.wordpress.com).

### **BUILDING THE NETWORK CENTERS AND ORGANIZATION MEMBERSHIP DATABASE**

The ICED plays a central role in the discussions relating to developing this community communication and information technology based strategy. The Institute is part of the JMSB faculty initiative (University of Concordia) to facilitate the development of social and community entrepreneurship to assist in improving the fit of the Black English speaking and other minority and disadvantaged communities in Quebec society. The mission of ICED “is to provide opportunities for members of Aboriginal, Black, ethnic and immigrant communities to acquire the knowledge and skills necessary to improve their situation as well as the economic and social conditions in their communities. ICED achieves its mission by engaging key representatives and organizations within these communities, conducting research and providing managerial tools and training that will facilitate social and economic development.” . (<https://www.concordia.ca/jmsb/research/centres/community-entrepreneurship.html>)

As a result of its association with the Black community of Montreal (teaching, research and community development) ICED has taken concrete action to broaden the research data and enrich the information available for informing community leaders and exemplars in the Black, indigenous and other minority communities in Quebec. To assist the development of ingenuity capacity in these networks and community organizations, ICED has entered into a research and publishing partnership with the Informing Science Institute (INSITE), an international association for the multidisciplinary study of informing systems. As a partner, it is responsible for publishing an International Journal of Community Development and Management Studies (IJCDMS). The Journal invites scholars and practitioners, worldwide, to examine social and economic development in diverse socio-economic environments. The aim is to help readers (leaders, community organizers, managers, policy makers) in the Black and other communities to develop and promote an understanding of the role played by “under the radar” ethnic community organizations; and the impact of culture, ethnicity and class on the individual, the group on community and socio-



economic development : an approximation for fitness. (IS Institute for Informing Science IJCDMS/Overview )

## NETWORK CONNECTION AND SHARING OF INFORMATION

There is no direct data sharing from a common data base or archival system as yet. The sharing of information is done on an informal basis between member organizations. What data the agencies want to submit to a common data base is still being discussed. Also a pilot study for the archiving of community organization files is being conducted by the Black Studies Center; and a pan Black cultural events network is now in place under the management of the Black History Month Round Table. ICED Portal is being redesign to create a common and open archive system and database accessible to the four key participants in the network. Also negotiations are taking place with Libraries Concordia to establish an open archive system. As part of the building of the network, portals have been created at the Black Studies Center, the Quebec Board of Black Educators, the BCRC and the BTW. These organizations have acquired the capacity and trained personnel to manage their private physical and digitized information. The BCRC, the BSC, the BTW and the QBBE have personnel whose function is to manage the digitized communication and information systems that they have put in place. Moreover, there is a joint archival agreement between BTW, BSC, BCRC and BTW. In addition, several of these organizations have come together as part of an Alliance of Black organization to create a single website for the purpose of promoting and informing the larger community of Montreal and Canada about socio-political, arts and cultural events that define the identities and inform on the histories of the Black and African communities of Quebec. The name of the website is "Pan Black Events." It is centrally managed by the Black History Month Round Table on behalf of the alliance of organization and the Black community Forum (<http://panblackevents.com>). The manifesto of the alliance reads as follows:

"The coalition of individuals and organizations that came together to develop this manifesto places its focus on events that define us and are expressions of that which is common to us and make us valuable to society as a collective. The manifesto is an invitation to all cultural communities of Montreal, Quebec and Canada to participate in and support these events as activities that advance the development of the new diversity that defines Montreal and Canada as a whole".

The events listed in this manifesto of community organizations are core events that collectively give a broadly defined conceptualization of Montreal based Pan-Black cultural activities.

## CONTENT CREATION

At the current time the organizations are not linked online as a network in the sense visualized for the planned network system. As a result content creation is not centrally controlled and automatically stored in a central database. Content is determined by the independent decision in response to the emerging connections and interactions of the agents in the network and the fitness landscape. However, there is vastly increased communication between agent organizations and some centralization of distribution of arts, cultural and social information. Through the media of workshops and meetings organized by the Secretariat of the Black Community Forum joint representations are now made on a number of development issues to the various government agents: Ministry of Education, Ministry of Heritage, the Commissioner of Official Languages, City of Montreal borough councils and the City of Montreal Executive Council. Complete documentation and the communication between the members of the Black Community Forum and the Secretariat is stored centrally at the Black Studies Center archives and at the Secretariat of the Black Forum. These are open data sources that are available to member organizations and the public. In addition, much more information is being posted by the individual organizations consistent with the concepts and principles suggested as guidelines by GRI: Annual Reports, Program Reports; Town Hall Reports and Discussions; historical and cultural documents; videos of workshops and conferences. Semaji published by the BCRC in collaboration with the Black Studies Center is an online digitized newsletter posted on the BSC portal and the BCRC Website. It addresses a wide range of socio-political issues relating to the English Speaking Black organizations and about the challenges facing Black

community development. As a result of this network center plan, the newsletter has been expanded from four issues per year to eight issues to cover the expanded network communication and information needs. The general public has access to this new and updated information on the portals and websites of the of the following organizations in the network: BSC, <http://bscportal.wordpress.com> ; Quebec Board of Black Educators: <http://www.qbbe.ca>; Black Community Resource Center <http://bcrcmontreal.com/> ; and the Pan Black Events site administered by Black History Month Round Table on behalf of the alliance of Black organizations and the Black History Month Round Table, <http://panblackevents.com/about/>.

## **Snapshot of Social and Cultural Activities Supported by Alliance of Groups as Pan Black Culture Identity Events in Montreal, Quebec.**

### **Black History Month and International Day Events**

- Vision celebration of Black Theatre Workshop Montreal opens Black History Month. Third week of January annually: The Martin Luther King Jr Life Time Achievement Award and the Dr. Clarence Bayne Community Award for exceptional achievements in the arts, culture and community development.
- Black History Month School Tour of BTW. During February Each Year.
- Black History Month programs by The Round Table for Black History Month and Black History Month events celebrated during the Month of February by Associations and Community-Based Organizations.
- March 21 International Day against Discrimination. Events of la Ligue des Noirs at City Hall and other community organization Events.
- BCRC Blood Drive and Black Community Forum and Town Hall Seminars

### **Conferences, Seminars, Award Galas**

1. Mathieu Da Costa Award Gala of La Ligue des Noirs honouring the Lifetime work of Black Social Entrepreneurs and Professional of Quebec.
2. The Activities of the Black Writers Guild of Quebec: Kola and other publications of Black Writers in Canada and the Black Diaspora,, its monthly Readings; and Seminars,
3. Editorials and Publishing libraries specialized in Pan-Black Cultural Event.
4. Professional Black Theatre and Dance and Black Theatre Workshop Season of Black Plays. Events show casing and Promoting Black Canadian performing Arts and Artists.
5. Da Costa-Costa Hall Education and Black History Programs, conferences, seminars, Gala Awards and research initiatives in parenting and the education and development of youth, in particular the Black child in the school and social systems of Quebec.

### **Festivals:**

- The Carifesta Caribbean Festival and associated Events under its auspices and mandate. Montreal, July annually.



- The Reggae Festival of Montreal: annual Summer Festival at St Helen's Island • International Day Remembrance Week of the Transatlantic Slave Trade and its Abolition: Activities of La Ligue des Noirs du Quebec at Saint-Armand, reception at City Hall.
- Events by other Collaborating Community agencies of similar mandates. Two Weeks celebration in August of every year
- Montreal Black Film Festival of the Montreal International Black Film Festival-MIBF dedicated to promoting cinema, art and culture
- Taste of the Caribbean Festival dedicated to the promotion of the culinary arts and cuisines of the Caribbean, guided by the support of Black entrepreneurship in the sector.

### **Promotion of Caribbean and African Cultural Festivals**

- Jamaica Day
- Trinidad Day
- Nuit D'Afrique
- Haiti en Folie
- Vue D'Afrique
- The Promotion of the Kwanza Festival at the end of each year following of Christmas, project of UNIA and The Union United Church of Montreal.

### **Events and documents Posted on Black Studies Center Portal**

"The Black Studies Centre Portal publicizes, promotes events, and discourses; digitizes, archives, and distributes materials, which in general present and define Pan-Black-Canadian Identities, with a particular focus on the English Speaking Black Communities in Quebec." It serves a coalition of organizations that support Pan-Black events that contribute to and enrich the Canadian diversity.

- Houses the Black Studies Center– ICED (Concordia) Information -Technology and Community Communication Network; and an Archival System which processes and preserves the documents of the history of Blacks in Quebec and Canada.
- Sponsor and joint publisher of the BCRC Newsletter Semaji, (a Black digitized newsletter). Linked to the Quebec Community Groups Network Daily update.
- Stores and preserves data on histories of Black Community Organizations; Articles, Research Papers, Rare News papers and journals, Task force reports; Reports of the Black Community Forum (Val Morin 1992 Forum and the June 16 2016 Forum; Conference and workshop documentations);
- Present displays at summer programs. Collaborations on social entrepreneurship programs. Presentation of research papers and briefs to government and other agencies and institutions. Dissemination of research information on Community development and small business start-ups.

### **The Network Organizations Youth Summer School:**

ICED and BSC prepared course materials for start-up business courses that are given at the Black Youth Summer School Program conducted by ICED and QBBE. The strategy is to expose Black youth to business as an alternative career, and to encourage Blacks to participate in providing jobs for themselves by increasing the number of Black owned business per 1000 Black population. The courses cater to small businesses that operate in the "cracks of the market". Videos of these summer programs have been stored on Vimeo for future posting on the reconstructed ICED Portal; and on the QBBE and BSC website and portals.

## Summary of Status of System and Usefulness

The usefulness of the network will depend on how the outputs (its capacity to meet needs and sustainable services) of the network are perceived at the individual, the organizational and the community levels. In turn, this will depend on the significance of the connections/collaborations between the key organizations in the network. Hence the creation of the Black Community Forum based on the principle of unity by means of collaborations and adherence to a system-embedded sense of “existential responsibility”. These are critical influencing/utility determining factors. By associating usefulness with the economic concept of utility, we can say that the usefulness of the network depends on the improvements in utility (an approximation for fitness). This is expected to be produced from the increased access to information and knowledge held by exemplar agents in neighbouring sub-populations (i.e., experts, goal setters and innovators). It will require a holistic approach to community development supported by network centers that provide communication and information services at levels that improve and sustain the capacity of the organizations and the community to adapt and evolve. That is to say, increase and sustain the capacity of its sub-systems (sub-populations and organizations) to achieve and maintain the desired level of outcomes consistent with a higher fitness level for the English speaking Black Communities. This can be tested with the help of information provided by a built in feedback subsystem of the network. This will be possible when an automatically updating common data base being designed and created by the ICED is put in place. It will also require the creation of additional content in order to obtain a more comprehensive analysis of the effectiveness of the relationships supported and sustained by the network system and its centers. This is also important for monitoring and updating the knowledge and information system that informs the strategic decisions making and planning of the community organizations and their social entrepreneurs. For example, currently there is no automatic information feedback loop in the system; and no centralized data collection system for observing and measuring variables that approximate the wellbeing and changes in the wellbeing achieved by the members in the network system. This data base has to be built into the system and the economic and social and economic variables gathered external to the network and stored for use by the network and future exemplar leaders (exemplars). There is no comprehensive measure of a fitness index for the Black Community in Montreal. In reality, such an index would indeed be impossible to construct at a point in the mapping of the surface of a fitness landscape as described in this paper. Theoretically speaking, there are too many possibilities to find a precise solution. However, an approximation of fitness can be constructed using methods applied in the United Nations reports on human development. The Human Development Index (HDI) uses weighted averages of dimension indices such as, the life expectancy index, the education Index and the GDI index, which taken together with measures of inequality such as comparative data on income, employment and unemployment, poverty, etc. are considered reasonable approximations of fitness. At a significant cost, much of the data can be obtained from Statistics Canada census data, transformed into social indices and economic indices and made available as part of the common data base for the Network members. It is an objective of the ICED-BSC-BCRC Communication and Information network centers. It is our opinion that communication network centers will help to increase the capacity of the Black English Speaking minorities for solving problems of social and economic exclusion; and for promoting sustainable development. The focus of the study is on the English speaking Black Community of Montreal, Quebec, Canada, but it also applies to other minority and new immigrant communities.

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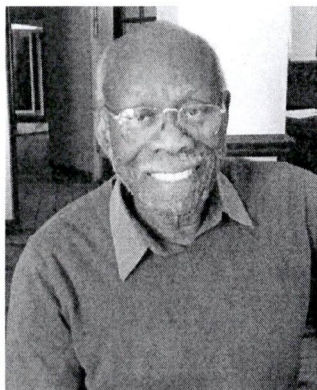
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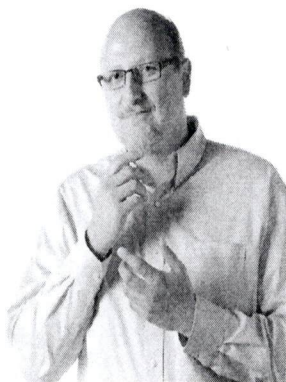


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